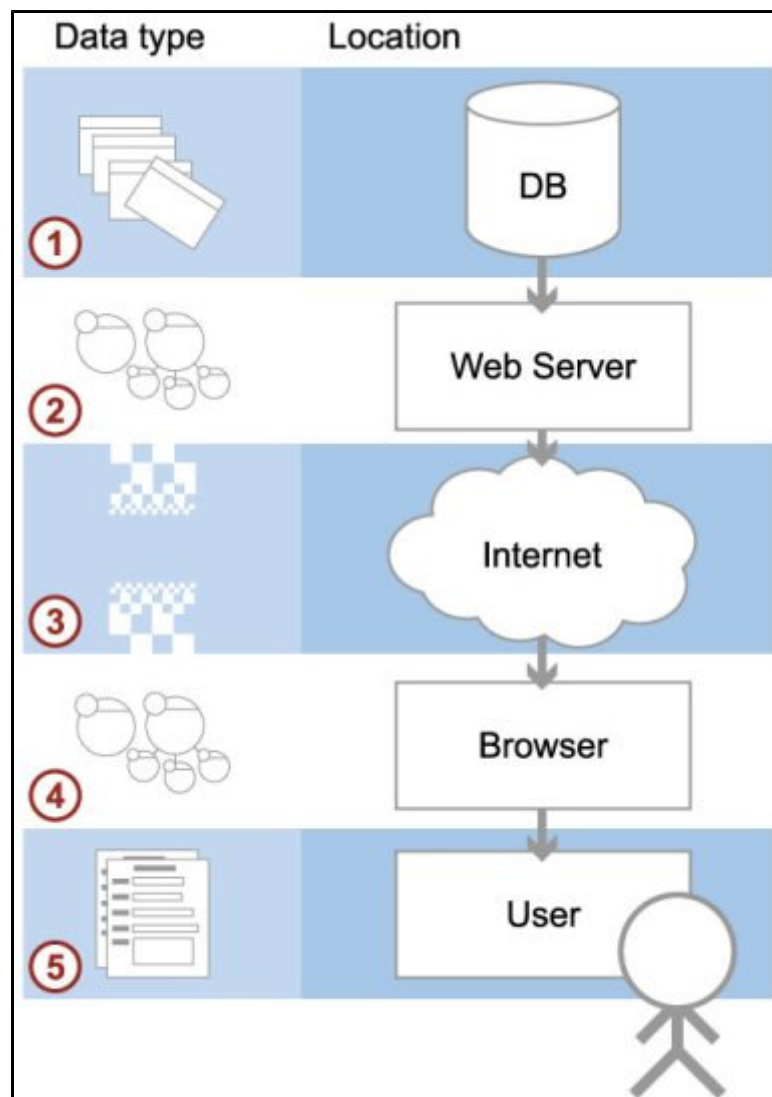# 5.1. Web

In this lecture we look at...

5.1.01. Databases for the Internet

- Path from DB to User
- Information flow
- Data formats (OO)
- Format transitions
- Limitations/channel

  right now
- The Future

5.1.02. OO

- Object orientated approach

- ○ Consistent/optimised development model
- ○ Good approximation of real world
- ○ Closer link to mini-world
- Java and PHP
- DB persistence
- UML

5.1.03. Java and PHP in context

- Java
  - ○ JSP (server-side)
  - ○ Javascript (client-side)
- PHP
  - ○ Server side only
- JSON or XML
  - ○ Object communication
- Ideal scenario
  - ○ Java – load times

5.1.04. In a perfect world

- Homogenous data format/data model
- DB stores objects instead
- Objects transferred
  - ○ Robust
  - ○ Lightweight
  - ○ Fast
  - ○ Consistent (more later in Transactions)
  - ○ Caching

5.1.05. In the real world

- Heterogenous data model
- Object translation/wrappers
- Different languages features at different layers
- Minimal subset of OO functionality available end-to-end
- Going to look at information flow/functionality provided

5.1.06. User

- Limitations of being human
  - ○ short term memory
  - ○ long term familiarity
- language of the Internet
  - ○ hypertext linking
  - ○ form filling
- Advantages of being human
  - ○ impatience, no waiting

○ wants instant response

5.1.07. Browser

- Http requests
- Forms
  - Post
  - Get
- Form fields
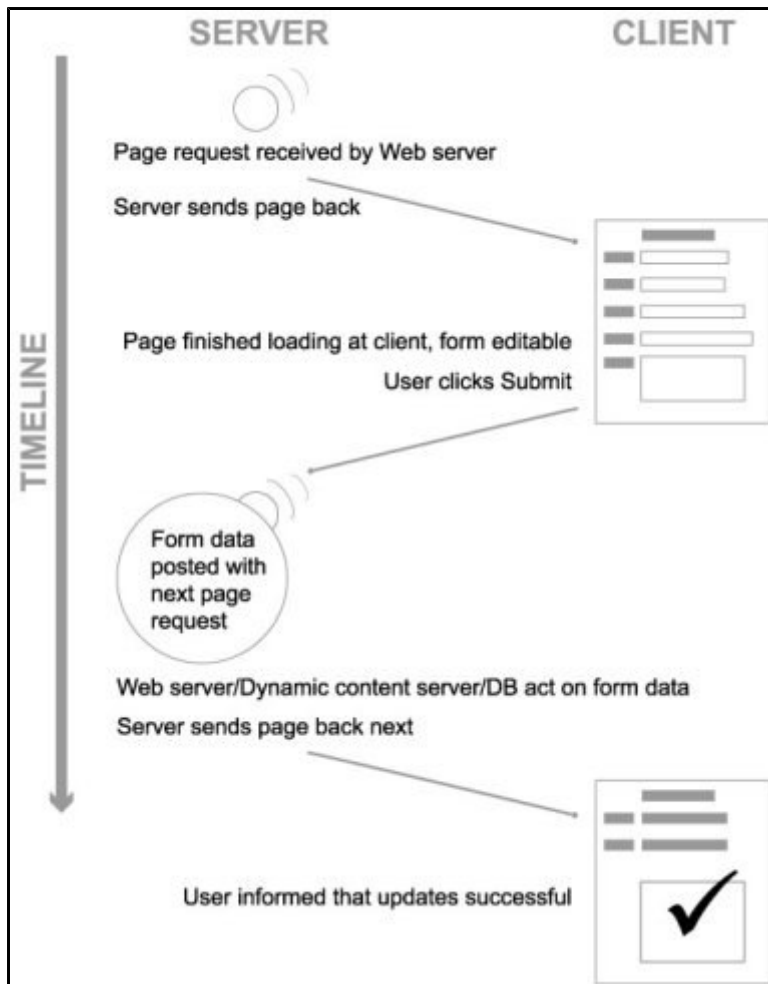 - By name, by ID
  - Hidden
- Javascript/DOM tree

5.1.08. Internet

- Communication medium
- Good for transferring data
- Not good for transforming data
- e.g. Light in air
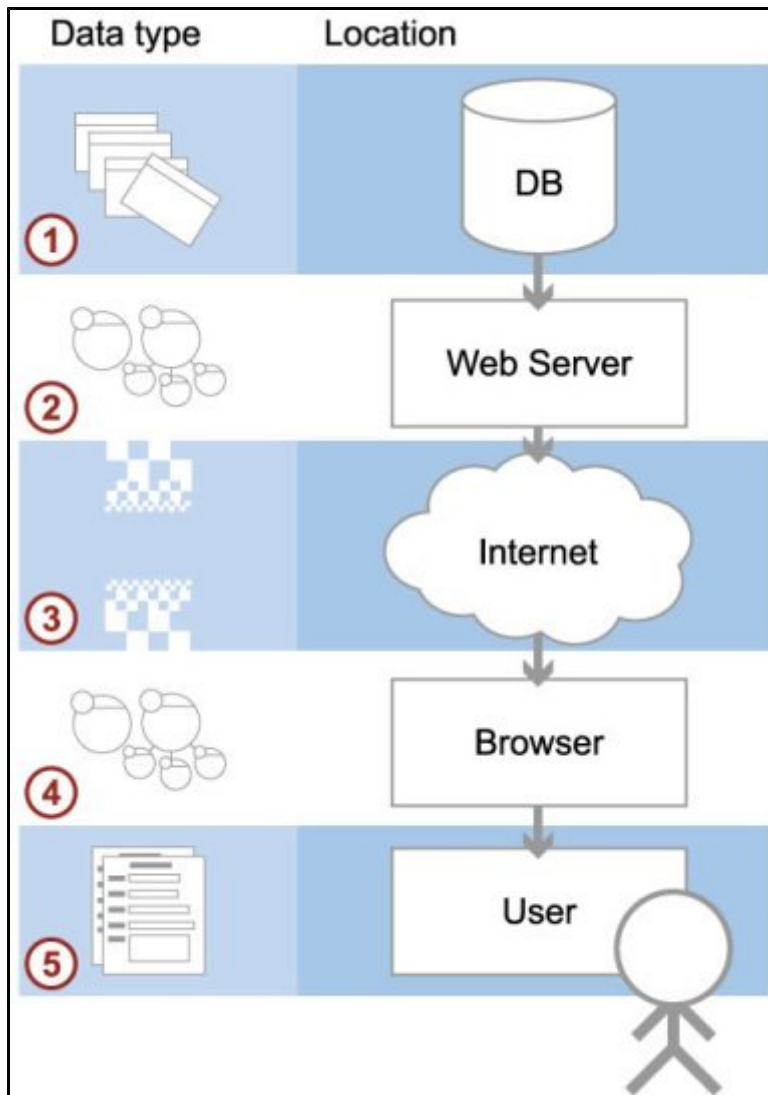- e.g. Signal over CAT5e/UTP cable

5.1.09. Web server

- Straight HTML pages
- Dynamic HTML pages
  - PHP example
  - JSP example
- As above with RDBMS integration
  - PHP PDO example
- As above with Objects
  - PHP DBDO example

5.1.10. load, edit, submit, act timeline

5.1.11. href click, versus form post

- Protocol stack
- Basic up-down
- Shortcuts
- Browser cache
- Web server
    - assembled page cache
    - php object cache
- DB optimised queries

5.1.12. Examples from the web

- Google Maps
  - link
- Car selector and Dealer locator
  - link